SIEMENS

Bewacard

BC615
BC615-Cotag
BC615-EM

Installation and User Manual

Fire Safety & Security Products
Siemens Building Technologies

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Contents

WHAT IS THE BC615? 5
Features included 6
How does the card reader work? 7
Security levels 7
Time zones and day types 9
Time schedules 11
PROXIMITY FUNCTION 12
General 12
Reading distance 12
KEYPAD LAYOUT 13
INSTALLING THE CARD READER 14
HOW TO SELECT CONNECTING CABLES 15
WIRING 16
Recommended cables 18
Considerations concerning earthing & screening 18
Connecting the power supplies 19
Connecting BC615 to the CR1 converter 21
ENTRO WIRING EXAMPLE 23
COMMISSIONING THE SYSTEM 24
Standalone card readers 24
Card readers in Entro systems 24
PROGRAMMING (STANDALONE INSTALLATION) 25
Buzzer and LEDs 25
Set password 26
Set the card reader to programming mode 26
Set time and date 27
Program time zones 28
Erase a time zone 28
Program time schedules 29
Erase a time schedule 29
Define the “Door unlocked” security level 30
Define the “Common code” security level 30
Define the “Card Only” security level 30
Define the “Card + PIN” security level 31
Define the “Toggle” security level 31
Log on a card (with a card) 32
Log on a card (without the card) 33
Log on a series of cards 34
Cancel card (with card) 34

Cancel card (without card) 35
Program/change/erase common code 35
Program holidays 36
Delete individual holidays 36
Delete all holidays 37
Set door release time 37
Set door held warning time 37
Buzzer on/off 38
Calculated PIN 39
Card reading parameters 40
Change programming password 41
Erase the memory 42
Printout of events 43
Printout of programmed common codes 43
Printout of programmed time zones and time schedules 44
Printout of reader information 45
Printout of logged on cards 46
Printout of programmed holidays 46
Explanation on event codes 47
PROGRAMMING OVERVIEW 49
DAILY USE 54
Entrance 54
Choose/change PIN code (Calculated PIN not set) 54
Duress 55
TROUBLESHOOTING 56
TECHNICAL INFORMATION 57
CHARTS 58

What is the BC615?

BC615 is a compact card reader for magnetic cards – and BC615-Cotag/BC615-EM is a compact card reader for proximity cards. Both models have capacity for 1000 cards.

In the following chapters the name BC615 will refer to both models because the only difference is the way of reading cards.

See also chapter *Proximity function* on page 12 for more information of the proximity function.

BC615 can be used as a stand-alone unit or be included in a system consisting of several BC615 card readers.

- ***As a stand-alone unit***: Programming is done on the card reader's keypad.
- ***As a component in a large system***: Programming is done from a PC using the SiPass Entro application with SR34i and software installed.

This manual only describes keypad programming. PC programming is described in the SiPass Entro manuals respectively.

Features included

These are the main features included in BC615:

- ***Six different security levels***. Various methods of opening the door, e.g. *Card*, *Card + PIN* and *Common code*.
- ***Built-in time clock***. Enables time control of cards and security levels. Holidays, half-days and holiday periods can be pre-programmed.
- ***Door Monitoring***. Enables activation of an alarm if the door is forced open or held open too long.
- ***Access registration***. Enables time-controlled printouts of the 1000 latest events, sorted according to date, card or alarm.
- ***Duress***. Enables users who are being forced to open the door under threat to enter a special code that activates an alarm. Note! Duress is only applicable during the Card + PIN security level.
- ***Automatic adjustment of clock for daylight saving*** according to European standard (last Sunday in March and October).

How does the card reader work?

BC615 can easily be adapted to the security requirements in a particular building, a particular day of the week or time of day. To make this possible you have to be familiar with the following concepts:

- Security levels
- Time zones
- Day types
- Time schedules

Security levels

The security level determines what action is required to open the door. The following security levels exist:

- ***Unlocked door***. Neither cards nor codes are needed to open the door. (Free access)
- ***Common code***. A four-digit code (one code per Time Schedule) is required to open the door.
- ***Card***. The user must swipe or present their card to open the door.
- ***Card + PIN***. The user must swipe or present their card and enter a personal code to open the door. The cardholder can choose/change their personal code on the keypad (in SiPass Entro installations the PIN code is set from the PC).
- ***Toggle function***. Used together with current security level, i.e. *Card*, *Common code* or *Card + PIN*. When the card/code is used the first time the door is opened and remains unlocked until the card/code is used the next time or until another security level starts.
- ***Card reader Inhibited***. The card reader is completely inhibited. Only exit request works.

Examples of timing security levels

During office hours, when there are people in the premises, the security level may not need to be so high: *Unlocked door* or *Common code* may be suitable levels.

During lunch time, the level may be raised to *Card*.

The remaining time, i.e. evenings, nights and weekends *Card + PIN* is a suitable security level.

The *Toggle function* can be used in premises where a person is responsible during certain hours; e.g. a class-room or a loading bay door. In a class-room, the teacher can open the door, which remains open until he or she locks the door. The pupils may come in and out without having cards or common code.

Time zones and day types

There are two purposes of creating time zones:

- To be able to assign different security levels to different times of the day.
- To be able to make certain cards valid at certain times.

Example: The working hours in an office could be as follows:

Monday to Friday:	08.30-11.59 and 13.00-17.59
Lunch:	12.00-12.59
Saturdays, Sundays and holidays:	Closed
Half-days, e.g. the day before Christmas:	08.30-11.59 and 13.00-14.59

To make the card reader understand that holidays, e.g. Christmas Eve and holiday periods, should not be treated as ordinary working days, this information must be programmed.

Note! A time zone is valid from and including the first second in the first minute up to and including the last second in the last minute.

The ***day type*** determines what day of the week the time zone applies. **1** = Monday, **2** = Tuesday etc. **8** is an extra day type that can be used for half-days, e.g. the day before Christmas.

Each time zone may consist of two intervals. To be able to assign suitable ***security levels*** to the office example above, the following time zones are needed:

Time zone no	**Applies**
01	Applies 24 hours a day (all day types). Note: Default time zone that can be changed.
02	08.30 – 11.59 and 13.00 – 17.59 Monday to Friday (day types 1, 2, 3, 4 and 5).
03	12.00 – 12.59 Monday to Friday and half-days (day types 1, 2, 3, 4, 5 and 8).
04	00.00 – 08.29 and 18.00 – 23.59 Monday to Friday (day types 1, 2, 3, 4 and 5).
05	00.00 – 23.59 Saturdays and Sundays (day types 6 and 7).
06	08.30 – 11.59 and 13.00 – 14.59 on half-days (day type 8).
07	00.00 – 08.29 and 15.00 – 23.59 on half-days (day type 8).

Up to 15 different time zones can be created. You may for example define a specific time zone for the cleaning staff:

08	Applies between 06.00 and 07.59 (day types 1 and 3).

Time schedules

There are two purposes for creating time schedules:

To be able to combine time zones for the control of security levels.

To be able to combine time zones defined for the time control of specific cards.

Up to four time zones can be included in one time schedule.

When the desired time schedules have been defined, it is an easy task to tie them either to a certain security level or to specific cards (see the *Programming* chapter).

This example shows how to include time zones into time schedules (the time zones defined in the previous example are used).

Time schedule no	**Includes time zone/s**
01	01 (enabling assignment of time zone 01 to the cards). Note: Default time schedule that can be changed
02	02 and 06 (enabling the ”Common code” security level to be assigned to both time zones).
03	03 (enabling assignment of the ”Card” security level to the lunch hour).
04	04, 05 and 07 (enabling assignment of the ”Card + PIN” security level to evenings, nights, weekends and holidays).
05	08 (enabling assignment of time zone 08 to the cleaning staff’s cards).

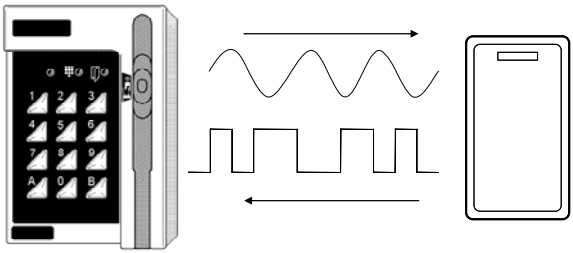
Up to 15 different time schedules can be created.

Proximity function

General

The Proximity function means that the reader can read cards or tags without them being in contact with the reader.

The reader continuously transmits a low power radio frequency. When a card or tag is presented within the field of the reader it activates and transmits a unique identification number (card number) back to the reader.



The reader can be mounted on all types of materials. The only limit is that the reader may not be completely surrounded by metal.

Reading distance

Depending on the type of cards or tags the reading distance could be slightly different.

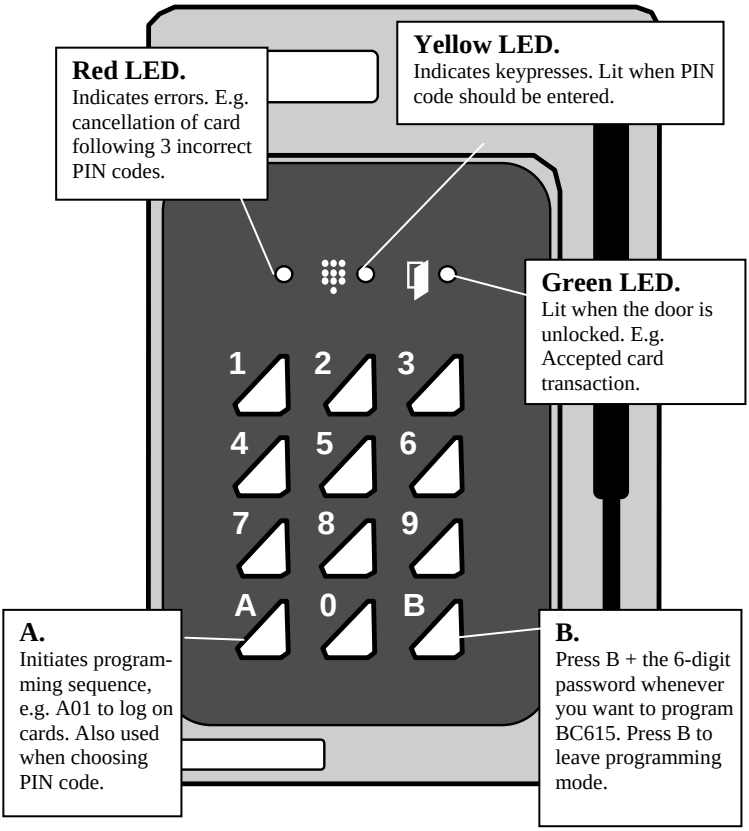
Active cards have a built-in battery, which gives a distance of approx. 10 centimetres.

Passive cards lack the battery and give approx. 3 centimetres.

Laminated cards (complete with magnetic stripe) are of passive type.

Keypad layout

Diagram of the LEDs and pushbuttons on the BC615 keypad.


Red LED.
Indicates errors. E.g. cancellation of card following 3 incorrect PIN codes.
Yellow LED.
Indicates keypresses. Lit when PIN code should be entered.
Green LED.
Lit when the door is unlocked. E.g. Accepted card transaction.
1 2 3
4 5 6
7 8 9
A 0 B
A.
Initiates programming sequence, e.g. A01 to log on cards. Also used when choosing PIN code.
B.
Press B + the 6-digit password whenever you want to program BC615. Press B to leave programming mode.

All LEDs are flashing in programming mode. The LEDs also have other indications explained in full later.

Installing the card reader

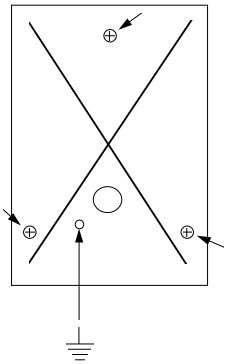
Install the card reader at a height of 120–140 cm (from the floor to the bottom edge of the card reader). To cater for disabled persons, a suitable height is approximately 95 cm.

When installing the *BC615-Cotag/BC615-EM,* care should be taken to avoid sources of electrical noise, such as motors, generators, pumps, computer installation and mains cabling.

To install the card reader:

1 Open the card reader with the key supplied. The lock is located on the underside of the reader.

2 Fasten the back plate against the wall, using three screws according to the illustration below. Seal the screw and cable holes with sealant if the unit is externally mounted.



3 Make sure the back plate is earthed. Use a separate cable to the earthing point. Make sure the front and back plates are connected with the internal strap.

4 Fit the front and check that the card reader is securely fastened.

Note! If you are using the Bewacard BC615 card reader product to control an **electric lock strike plate** – we recommend you to earth the lock. The wiring should be as near the lock as possible.

How to select connecting cables

It is important to use cables with the correct conductor gauge, to keep the voltage drop in the cables as low as possible.

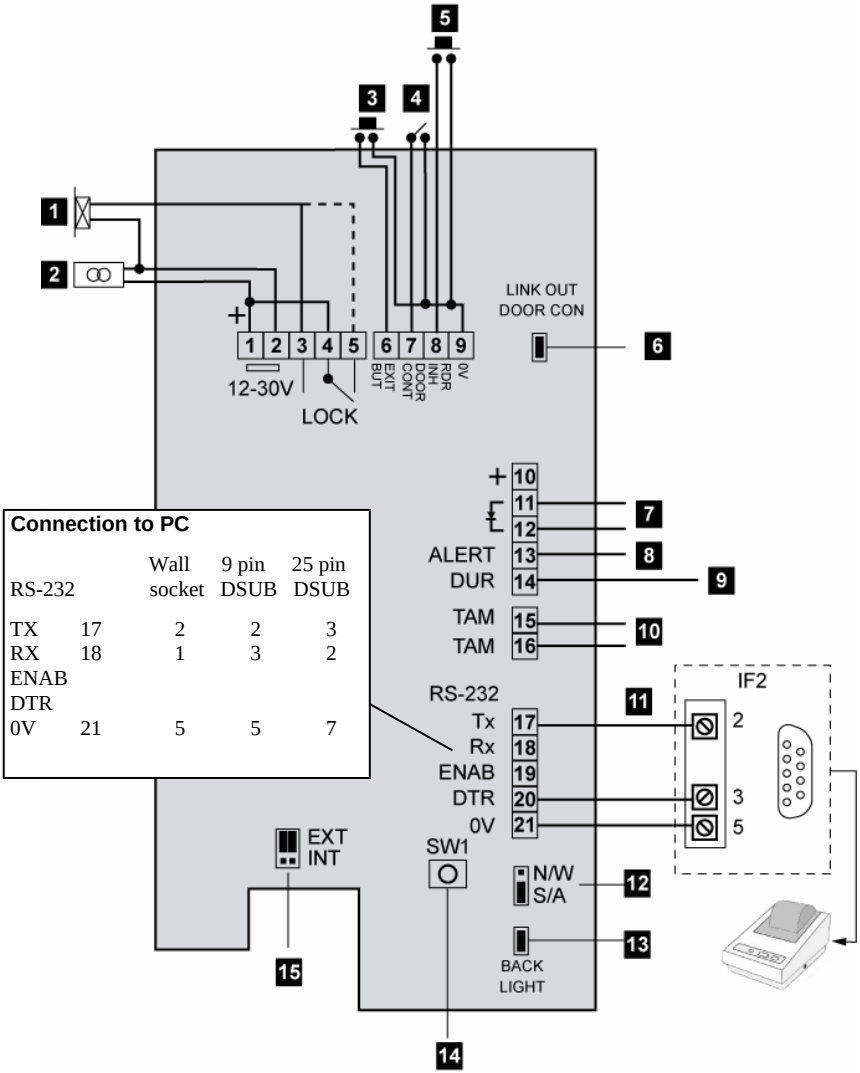
- ***12 volt supplies***. A 12 V electric locking device generally needs at least 11 V to work properly, so the voltage at the card reader should never be less than 11 V.
- ***24 volt supplies***. A 24 V electric locking device generally needs at least 21 V to work properly, so the voltage at the card reader should never be less than 21 V.

The recommended gauge (cross-sectional area) of the conductor depends on the distance between the power supply and the card reader, and on the load at the card reader.

The table below is for a Bewacard 615 with an electric release. The total load is 300 mA at 24 V or 600 mA at 12 V.

Cable length (metres)	24 V Supply		12 V Supply	
	Min conductor area (mm^2)	dia (mm)	Min conductor area (mm^2)	dia (mm)
0-50	0.17	0.46	0.51	0.80
51-100	0.34	0.65	1.02	1.14
101-150	0.51	0.80	1.53	1.40
151-200	0.68	0.93	2.04	1.61
201-250	0.85	1.04	2.55	1.80
251-300	1.02	1.14	3.06	1.95

Wiring



Connection to PC

RS-232		Wall socket	9 pin DSUB	25 pin DSUB
TX	17	2	2	3
RX	18	1	3	2
ENAB				
DTR				
0V	21	5	5	7

1	Electric locking device. Dashed line shows connection to locks with power to lock operation.
2	Power in, terminal block nos. 1 and 2. **BC615-Cotag/BC615-EM** : 12 – 35 VDC. **BC615**: 8 - 24 VAC or 10 – 35 VDC.
3	Exit request button. To operate, short terminal nos. 6 and 9.
4	Input for door monitor contact. Link out by jumper 6 if not used. The contact should be closed when the door is closed.
5	Input for reader inhibit. To operate, short terminal nos. 8 and 9. The red LED on the reader flashes.
6	Place jumper if door monitor contacts is not used.
7	Alarm set input (red LED lit). Terminal no 11 +, no 12 –.
8	Alert output. Use an E7 relay. Connect between terminal nos. 13 and + (10). Activated when a door is forced open or following door release + door held warning time and when door contacts are not closed.
9	Duress output. Used for activating an external alarm. Use an E7 relay. Connect between terminal nos. 14 and + (10).
10	Tamper switch. Normally closed when the housing is closed.
11	Connection to printer. For connection to PC, see previous diagram. RS232 interface: 9 600 bps, no parity, 8 bits, 1 start bit, 1 stop bit
12	If the card reader is used with SiPass Entro system, attach jumper to N/W (network), otherwise to S/A (standalone).
13	Remove jumper if backlighting is not required.
14	The SW1 push button. Used when erasing the memory and setting a new password.
15	If the card reader is part of a SiPass Entro system, place jumper on INT (attempts of tamper will be displayed as messages on the PC's screen), otherwise to EXT. (Direct connection to external alarm)

Recommended cables

Cable from SiPass Entro to CR1

Maximum length: 1200 metres.

- Pair twisted screened (1 pair + screen), e.g. Beldon 9502 (communication) and 1.5mm^2 (power)

OR

- PAARFLEX CY (custom cable comprising communication and power in one cable).

Cables between CR1 and BC615

Maximum length: 15 metres. Specified cable: Straight screened cable (4 + screen), e.g. Beldon 9534.

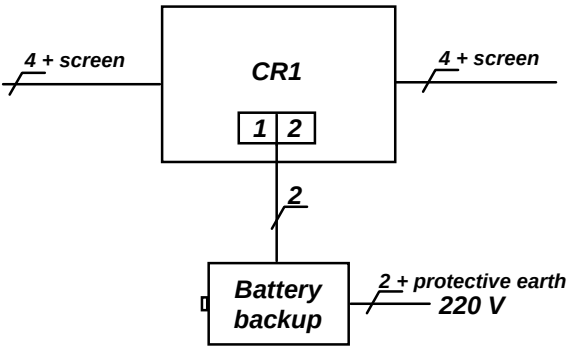
Considerations concerning earthing & screening

The cable screens must be connected to protective earth, **but only in one place** in the system. Also remember that metal parts in doors or vehicle barriers can be in contact with earth. For readers installed on these surfaces, the screen must not be connected to the metalwork.

Avoid placing the cables close to heavy current installations, (e.g. lifts and power doors) since they may cause disturbance.

Connecting the power supplies

Connect the power supply according to the instructions below, but do not connect the power to outgoing cables. Apply power when you start the system (see the *Check the communications circuit* section).



The system cables screen can be earthed at the power supply. Connect the screen to protective earth, but remember that the system cables' screen must be earthed at **one point only** in the system.

Also remember that metal parts in doors or vehicle barriers can be in contact with earth. For readers installed on these surfaces, the screen must not be connected to the metalwork.

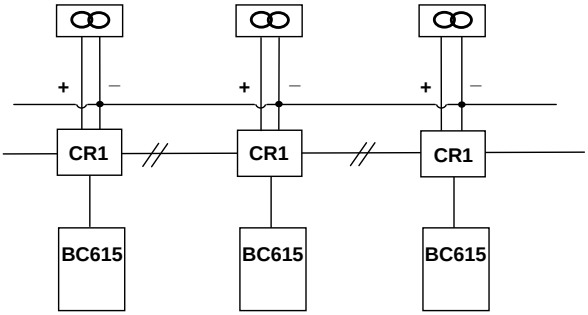
Central power supply

If central power supply is used, precautions should taken against voltage drop. Dimension the power supply equipment and cables so that the voltage at the last door is not below the lock or reader's tolerance. A 24V electric locking device for example, has a tolerance of + -15% which is equivalent to 20,4V.

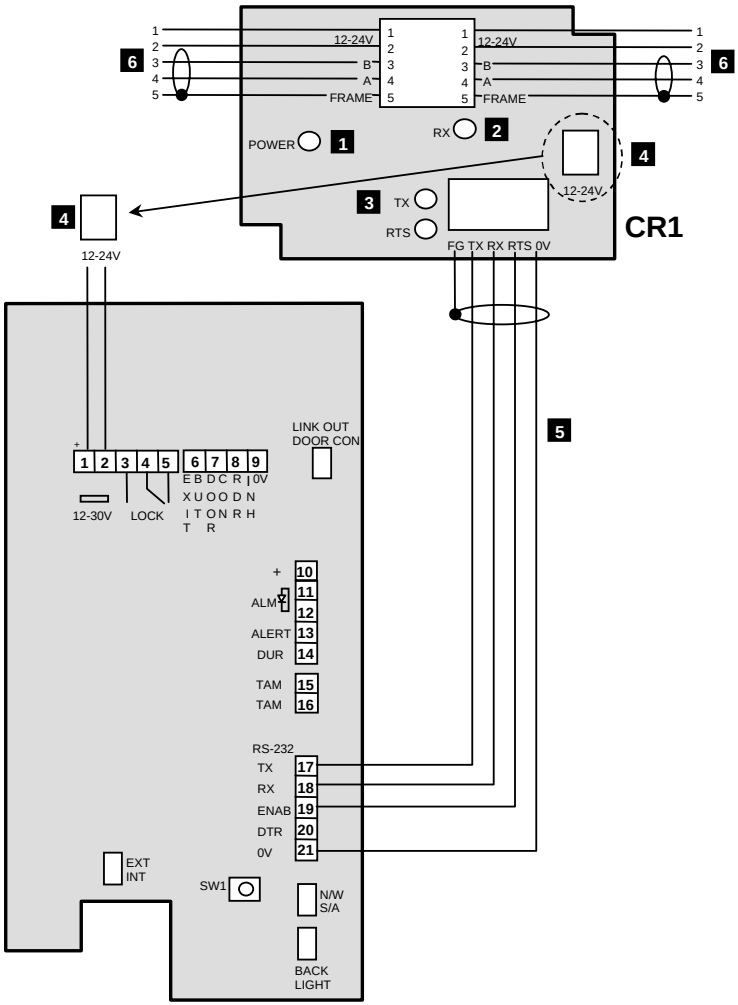
One way of reducing unnecessary power loss is to place the power supply equipment somewhere in the middle of the circuit. Thus, the load will be equal on each side of the power supply. If the distances or the load are too great, multiple power supply units will be required.

Local reader power supply

Whenever one or several readers are connected to a local power supply, remember to join the negative wires (0 volt) to avoid potential differences. See example below.



Connecting BC615 to the CR1 converter

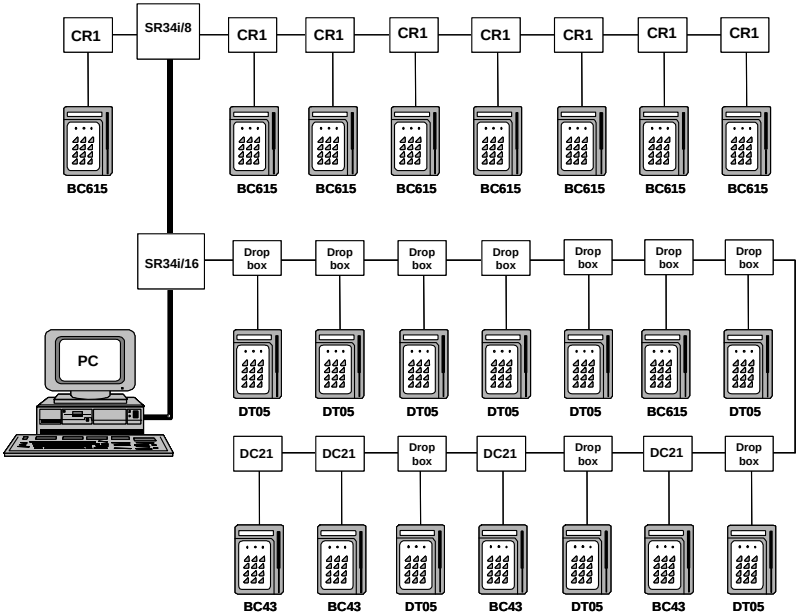


1	Power LED. Lit green when CR1 is powered.
2	RX. Yellow LED flashing quickly when CR1 is communicating with the PC.
3	TX/RTS. Flashes green/red when CR1 is communicating with the card reader.
4	Power supply to card reader. Connect to terminal nos 1 and 2 on the BC615 circuit board.
5	Communication between CR1 and card reader. Connect TX to TX, RX to RX, RTS to ENAB and 0V to 0V.
6	Connection to the next dropbox or SR34i in Entro system.

Note! Fit 120 ohm resistor between the A and B of the communications in the CR1 unit at the each end of the line .

Entro wiring example

In premises where the system is more extensive, the BC615 card readers can be connected to a SiPass Entro system.



The SR34i segment controllers can be connected to the PC in a ”daisy chain” configuration. Each SR34i is controlling the card readers. A maximum of eight BC615s can be connected to each SR34i, but other reader types can be included. The BC615s are connected to the system via the CR1 converter.

Commissioning the system

Standalone card readers

Having installed the card reader, simply fill in the charts at the back of this manual and start programming the reader according to the instructions in the *Programming* chapter.

Card readers in Entro systems

Having installed the card readers and connected them to the CR1 converter, addresses should be allocated to each card reader and the communications circuit and power supply should be checked.

Check the communications circuit

When all units are connected (but with all removable terminal blocks disconnected in the CR1s), check on reader block nos. 3 and 4 in the CR1 that the resistance on the communication circuit is 60 Ω (ohm) plus the cable resistance. If the resistance is 120 Ω plus the cable resistance, one termination resistor is missing. If the resistance is much less than 60 Ω, there is a short circuit in the communications circuit. If the resistance is much greater than 120 Ω (open circuit), there is a circuit break or the termination is missing in both ends.

Check the power supply

Connect the power supplies. Check that the voltage is approximately that of the power supply output and that + and – are in the right positions.

Allocate addresses to the card readers

1 Open the card reader if it is not already open.

2 Set the Link 1 jumper to N/W.

3 Press SW1 for about 3 seconds. The card reader starts beeping.

4 Set the address (A1-A8 Entro) on the card reader keypad.

Start programming

Start programming according to the instructions in the SiPass Entro manual.

Programming (standalone installation)

In the sections below are the instructions on how to program the BC615 if the card reader is operating as a standalone unit. Programming SiPass Entro installations is described in the SiPass Entro manuals.

To be able to program the card reader you have to set the card reader to programming mode. This is done by entering a six-digit code (see the next page).

Buzzer and LEDs

During programming you will be guided by the buzzer and the LEDs.

In this manual the LEDs are illustrated in the following way:

❍ = Off ● = Lit ✸ = Flashes

In programming mode before a function is chosen: All three LEDs are flashing. ✸✸✸

During programming: The LEDs are lit or off depending on the function being programmed.

Correct programming: Confirmed by a rising signal consisting of two quick beeps.

Faulty programming: Confirmed by a falling signal consisting of one long and one short beep.

Note! If, having entered programming mode, no key is pressed within 20 seconds, the unit will leave programming mode.

Set password

The first thing to do before starting to program the card reader is to set a password.

1 Open the card reader with the key supplied. The lock is located on the underside of the card reader.

2 Press and hold the SW1 button (see wiring diagram on page 16) until the card reader starts beeping.

3 Enter the desired 6-digit password on the card reader's keypad.

The password is now set.

Set the card reader to programming mode

To program a function, the card reader has to be in programming mode. Proceed as follows:

1 Press B. ❍❍✸

2 Enter the 6-digit password. ✸✸✸

The card reader is now in programming mode.

Note! If the wrong password is entered two times in succession, the card reader is blocked from further attempts for 40 seconds. From then on the card reader is blocked for 40 seconds each time two incorrect passwords are entered.

Set time and date

1 Set the card reader to programming mode.

2 Press **A23**. ●●●

3 Enter the current year, month and date, e.g. 981021 for the 21st of October 1998.

4 Enter the current day of the week.

Example: 1 = Monday, 2 = Tuesday etc.

5 Enter the current time, e.g. 1601 for one minute past 4 PM.

The unit automatically goes back to programming mode.

Program time zones

This function is used to program the time zones to be used in the installation.

1 Take out the completed time zone chart/s.

2 Set the card reader to programming mode.

3 Press **A31**. ❍❍●

4 Enter the number of the time zone to be programmed. Use two digits, e.g. 01 for time zone 1.

5 Enter the starting time of the first time interval using four digits, e.g. 0800 for 8 am.

6 Enter the finishing time of the first time interval using four digits, e.g. 1159 for 11.59 pm.

If there is no need for a second time interval, press A to skip. Go to step 9.

7 Enter the start time of the second time interval using four digits, e.g. 1300 for 1 pm.

8 Enter the stop time of the second time interval using four digits, e.g. 1659 for 16.59 pm.

9 Enter the desired day type/s for this time zone.

10 Press B and go to step 4 to program another time zone or press B twice to go back to programming mode.

Erase a time zone

1 Set the card reader to programming mode.

2 Press A31. ❍❍●

3 Enter the number of the time zone to be erased.

4 Press A.

Program time schedules

This function is used to program the time schedules to be used in the installation.

1 Take out the completed time schedule chart/s.

2 Set the card reader to programming mode.

3 Press **A32**. ❍●❍

4 Enter the number of the time schedule to be programmed. Use two digits, e.g. 01 for time schedule 1.

5 Enter the time zones to be included in the time schedule. Example: To include time zones 1, 2 and 4, enter 010204.

6 Press B and go to step 4 to program another time schedule or press B twice to go back to programming mode.

Erase a time schedule

1 Set the card reader to programming mode.

2 Press **A32**. ❍●❍

3 Enter the number of the time schedule to be erased.

4 Press A.

Define the "Door unlocked" security level

1 Set the card reader to programming mode.

2 Press **A33**. ❍●❍

3 Enter the number of the time schedule to control the "Door unlocked" security level. Use two digits, e.g. 01 for time schedule 1.

4 Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Define the "Common code" security level

1 Set the card reader to programming mode.

2 Press **A34**. ❍●❍

3 Enter the number of the time schedule to control the "Common code" security level. Use two digits, e.g. 01 for time schedule 1.

4 Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Define the "Card Only" security level

1 Set the card reader to programming mode.

2 Press **A35**. ❍●❍

3 Enter the number of the time schedule to control the "Card Only" security level. Use two digits, e.g. 01 for time schedule 1.

4 Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Define the "Card + PIN" security level

1 Set the card reader to programming mode.

2 Press **A36**. ❍●❍

3 Enter the number of the time schedule to control the "Card + PIN" security level. Use two digits, e.g. 01 for time schedule 1.

4 Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Define the "Toggle" security level

1 Set the card reader to programming mode.

2 Press **A37**. ❍●❍

3 Enter the number of the time schedule to control the "Toggle" security level. Use two digits, e.g. 01 for time schedule 1.

4 Press B to leave programming mode.

To remove a time schedule from this security level, enter 00 in step 3 instead.

Log on a card (with a card)

Using this function, the cards to be used are programmed.

1 Set the card reader to programming mode.

2 Press **A01**. ❍●●

3 Enter the time schedule during which the card/s should be valid. Use 2 digits, e.g. 01 for time schedule 1.

4 Swipe the card (BC615) – or present the card (BC615-Cotag/BC615-EM).

5 If several cards should be valid during the same time schedule, swipe or present these cards as well.

6 When finished, press B to go back to programming mode.

7 Press B one more time to leave programming mode.

Log on a card (without the card)

Using this function, cards can be programmed by keying in the card number.

1 Set the card reader to programming mode.

2 Press **A03**. ❍●●

3 Enter the time schedule during which the card/s should be valid. Use 2 digits, e.g. 01 for time schedule 1.

4 Enter the card number on the keypad.

5 If several cards should be valid during the chosen time schedule, key in these cards as well.

6 When finished, press B to go back to programming mode.

7 Press B one more time to leave programming mode.

Log on a series of cards

Using this function you can quickly log on a contiguous series of cards.

1 Set the card reader to programming mode.

2 Press **A04**. ❍●●

3 Enter the time schedule during which the cards should be valid. Use 2 digits, e.g. 01 for time schedule 1.

4 Enter the card number of the first card in the series.

5 Enter the card number of the last card in the series. The red LED flashes as the cards are logged on.

6 Press B to leave programming mode.

Cancel card (with card)

Using this function a card can be cancelled (with the card) so that it cannot be used in the card reader.

1 Set the card reader to programming mode.

2 Press **A14**. ●❍❍

3 Swipe the card (BC615) – or present the card (BC615-Cotag/BC615-EM).

4 Swipe or present the next card, as required.

5 When finished, press B to go back to programming mode.

6 Press B one more time to leave programming mode.

Cancel card (without card)

Using this function, cards can be cancelled using the card number.

1 Set the card reader to programming mode.

2 Press **A16.** ●❍❍

3 Enter the card number. If the card is not logged on the ”faulty programming” signal is heard

4 Cancel the next card, as required.

5 When finished, press B to go back to programming mode.

6 Press B one more time to leave programming mode.

Program/change/erase common code

This is how to program a common code.

1 Set the card reader to programming mode.

2 Press **A21**. ●❍●

3 Enter to which time schedule the code should belong/belongs. Use 2 digits, e.g. 01 for time schedule 1.

4 Enter a four-digit common code. The existing code, if any, will be over-written.

To erase the common code so that it does not work, enter 0000.

5 To programme, change or erase another common code, follow steps 3-4.

6 Press B to leave programming mode.

Program holidays

This function is used to pre-program holidays that do not occur on Sundays and holiday periods.

1 Set the card reader to programming mode.

2 Press **A51**. ●●❍

3 Enter the number of the holiday using two digits (01-15).

4 Enter the date of the holiday, e.g. 1224 for the 24th of December.

To program a holiday period, enter the starting date of the period, e.g. 0701 for the 1st of July.

5 If an isolated holiday is being programmed, enter 01.

If a holiday period is being programmed, enter the duration in days of the period, including the starting date. Max number days 21.

6 Enter the day type to apply for this holiday/holiday period, e.g. 7 for Sunday.

7 Follow steps 3-6 to enter a new holiday/holiday period or press B to go back to programming mode.

Delete individual holidays

This function is used to delete individual holidays, as distinct to deleting all programmed holidays (see the next section).

1 Set the card reader to programming mode.

2 Press **A52**. ●●❍

3 Enter the number of the holiday, e.g. 01.

4 Press B to go back to programming mode.

Delete all holidays

This function is used to delete all programmed holidays.

1 Set the card reader to programming mode.

2 Press **A55**. ●●❍

3 Press **A55** one more time.

The unit automatically goes back to programming mode.

Set door release time

The door release time determines for how long the lock should remain released following a correct transaction. The default value is 7 seconds. This is how to change the opening time, if required:

1 Set the card reader to programming mode.

2 Press **A28**. ●●●

3 Enter the desired door release time (between 01 and 99 seconds).

4 Press B to leave programming mode.

Set door held warning time

If the door is still open when the door release time is over, a buzzer sounds at the door for the time set as door held warning time. The buzzer reminds the person entering to close the door immediately as an alarm is about to go off. This is how to change the door held warning time, if required:

Set the card reader to programming mode.

1 Press **A29**. ●●●

2 Enter the desired door held warning time (between 01 and 99 seconds).

3 Press B to leave programming mode.

Buzzer on/off

The default is that the buzzer is activated. If you do not want the buzzer to beep on key presses or door opening, it can be turned off. Note that even when the buzzer is off for normal operation, it will continue to sound during programming.

1 Set the card reader to programming mode.

2 Press **A65**. ●●●

3 Press 0.

4 Press B to leave programming mode.

To reactivate the buzzer, press 1 in step 3 instead.

Calculated PIN

If it is preferred not to have the users choose their own PIN codes, this function will enable automatic calculation of PIN codes, based on the card holder's card number. Proceed as follows:

1 Set the card reader to programming mode.

2 Press **A24**. ●❍●

3 Enter a 4-digit calculation factor.

4 Press B to leave programming mode.

To disable the function, enter 0000 in step 3.

The calculation factor is added to the last four digits in the card number.

Example: If the card number is 15278014 and the calculation factor is 4567, the code will be 2571.

8014 + 4567 = 12571

All the extra result (1) is disregarded.

~~1~~ ~~1~~
8014
4567

~~1~~2571

Card reading parameters

NOTE: Card-reading parameters can only be changed if using a magnetic strip card reader.

Magnetic strip card reader

When BC615 is delivered, the card reader reads positions 9 to 16 on the card's magnetic strip, or the last 8 positions if they are fewer than 16. If you want to use your own cards and they should be read differently, enter from which position on the magnetic strip the reader should start reading and how many digits should be read (max. 8).

Note! Previously logged on cards will not work if you change the card parameters.

1 Set the card reader to programming mode.

2 Press **A97**. ●●❍

3 Enter from which digit in the card number (01-40) the digits should be read.

To reset this function to the default setting, press A at this point.

4 Enter the number of digits to be read (1-8).

5 Press B to leave programming mode.

Note! If less than 8 digits are used in the card number, add as many 0 digits as necessary to make up an eight-digit card number when using the A03, A04 and A16 commands.

Example: If the card number is 5432, enter 00005432 when using the A03, A04 and A16 commands.

Proximity reader

When using proximity readers the co-operation between the reader and the cards are stated at the factory and cannot be changed. The digits used for logging on a card – or cancelling a card – will be the eight digits seen on the card. E g 00226225.

Change programming password

To change the password:

1 Press B and enter the present password.

2 Press **A27**. ●●●

3 Enter the new password. A warning tone is heard.

4 Enter the new password again. The warning tone sounds until all six digits have been entered.

5 Press B to leave programming mode.

6 Make a note of the new password.

Note! If you should forget the password you can set a new password. Read the *Set password*.

Erase the memory

When the card reader's memory is erased, the default settings are restored (see below).

1 Set the card reader to programming mode.

2 Open the card reader with the key supplied. The lock is located on the underside of the card reader.

3 Press and hold the **SW1** button (see the wiring diagram on page 16) until a rising tone is heard.

4 Press **112186**.

5 Press **112186** one more time.

All previously data have now been erased. The card reader reverts to the following settings:

- Password: 112233
- Common code: None
- Opening time: 7 seconds
- Door held warning time: 30 seconds
- Card parameters: Position 9-16, the last 8 positions if fewer than 16 positions.
- Time zone 01: 00.00 – 23.59, day types 1-7
- Time schedule 01: time zone 01

Printout of events

Using this function, printouts of events occurred can be requested.

1 Set the card reader to programming mode.

2 Press **A41**. ●❍❍

3 Press B to cancel the printout at any time.

4 Printout format:

YY-MM-DD D HH:MM TS XXXXXXXX TA

YY-MM-DD	=Date
D	=Daytype
HH:MM	=Time
TS	=Time schedule (if needed)
XXXXXXXX	=Card number (if used)
TA	=Type of event

5 Press B to leave programming mode.

Printout of programmed common codes

Using this function, printouts of programmed common codes can be requested.

1 Set the card reader to programming mode.

2 Press **A44**. ●❍❍

Printout format:

TS CCCC

TS	= Time schedule
CCCC	= Common code

3 Press B to leave programming mode.

Printout of programmed time zones and time schedules

Using this function, printouts of programmed time zones, time schedules and printer time zones can be requested.

1 Set the card reader to programming mode.

2 Press **A45**. ●❍❍

Press B to cancel the printout at any time.

Printout format Time zones:

TZ ON1 OFF1 ON2 OFF2 DAYS

TZ = Timezone (01-15)
ON = Start time
OFF = Stop time
DAYS = Daytype

Printout format Time schedules:

TS TZs

TS = Time schedule (01-15)
TZs = Time zones (01-15. Max four time zones)
PTS = Not used

3 Press B to leave programming mode.

Printout of reader information

1 Set the card reader to programming mode.

2 Press **A46**. ●❍❍

Press B to cancel the printout at any time.

Printout format:

BC615 Ver XX.XX	Version number on software
04-02-27 5(5) 11:34	Date, Daytype, (Halfday) and Time.
ID A	Reader ID no.
RT 07 S	Release time 07 sec.
DHWT 10 S	Door held warning time 10 sec.
A33 TS	Time schedule Door unlocked
A34 TS	Time schedule Common code
A35 TS	Time schedule Card
A36 TS	Time schedule Card + PIN
A37 TS	Time schedule Toggle

3 Press B to leave programming mode.

Printout of logged on cards

1 Set the card reader to programming mode.

2 Press **A47**. ●❍❍

Press B to cancel the printout at any time.

Printout format:

XXXXXXXX TS Card number and Time schedule

3 Press B to leave programming mode.

Printout of programmed holidays

1 Set the card reader to programming mode.

2 Press **A48**. ●❍❍

Press B to cancel the printout at any time.

Printout format:

HOL START DAYS TYPE

HOL = Number on holiday (01-15)
START = Start date
DAYS = Number of days (01-21)
TYPE = Daytype

3 Press B to leave programming mode.

Explanation on event codes

Event code	Explanation
------	**Access events**
CC	Access granted. Common code
CO	Access granted. Card
CP	Access granted. Card + PIN
DU	Access granted. Card + PIN Duress
IC	Access denied. Illegal common code
NL	Access denied. Card not logged on
IP	Access denied. Illegal PIN
TB	Access denied. Time blocked
------	**Door events**
DF	Door forced
DH	Door held
DC	Door closed
------	**Reader events**
TO	Tamper switch open
TC	Tamper switch closed

Programming overview

Startup	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
Set password	Open BC615	Press the SW1 button	Enter a 6-digit password						
Set BC615 to programming mode	Press B	Enter password							
Set time and date	Enter progr. mode	Press A23	Enter current date (YYMMDD)	Enter current day type (1-7)	Enter current time (HHMM)				
Time zones									
Program time zones	Enter progr. mode	Press A31	Enter time zone no	Enter start time for 1st interval (HHMM)	Enter stop time for 1st interval (HHMM)	Enter start time for 2nd interval (HHMM) or press A to skip	Enter stop time for 2nd interval (HHMM)	Enter day type/s (1-8)	Press B to end input and enter new time zone
Time schedules									
Program time schedules	Enter progr. mode	Press A32	Enter time schedule no	Enter time zone no/s included	Press B to end input and enter new time schedule				

Security levels	Step 1	Step 2	Step 3	Step 4	Step 5
Set time schedule using the ”Open” security level	Enter progr. mode	Press A33	Enter time schedule no		
Set time schedule using the ”Common code” security level	Enter progr. mode	Press A34	Enter time schedule no		
Set time schedule using the ”Card” security level	Enter progr. mode	Press A35	Enter time schedule no		
Set time schedule using the ”Card+PIN” security level	Enter progr. mode	Press A36	Enter time schedule no		
Set time schedule using the ”Toggle” security level	Enter progr. mode	Press A37	Enter time schedule no		
Cards					
Log on card with card	Enter progr. mode	Press A01	Enter time schedule no	Swipe/present card	
Log on card without card	Enter progr. mode	Press A03	Enter time schedule no	Enter card number (8 digits)	
Log on a series of cards	Enter progr. mode	Press A04	Enter time schedule no	Enter first card number in the series	Enter last card number in the series (8 digits)
Cancel card with card	Enter progr. mode	Press A14	Swipe/present card		
Cancel card without card	Enter progr. mode	Press A16	Enter card number		

Common code	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Program common code	Enter progr. mode	Press A21	Enter time schedule no	Enter common code		
Change common code	Enter progr. mode	Press A21	Enter time schedule no	Enter old code		Enter new code
Erase common code	Enter progr. mode	Press A21	Enter existing code	Enter 0000		
Holidays						
Program holidays	Enter progr. mode	Press A51	Enter holiday no	Enter date (MMDD)	Enter no of days including start date, e.g. 01	Enter day type (1-8)
Delete individual holidays	Enter progr. mode	Press A52	Enter holiday no			
Delete all holidays	Enter progr. mode	Press A55	Press A55 once again			

Other functions	Step 1	Step 2	Step 3	Step 4	Step 5
Set door release time	Enter progr. mode	Press A28	Enter no of seconds (01-99)		
Set door held warning time	Enter progr. mode	Press A29	Enter no of seconds (01-99)		
Buzzer on/off	Enter progr. mode	Press A65	1 = Buzzer on 0 = Buzzer off		
Calculated PIN	Enter progr. mode	Press A24	Enter a 4-digit calculation factor		
Card reading parameters	Enter progr. mode	Press A97	Enter start position (01-40)	Enter no of positions to be read (1-8)	
Change password	Enter progr. mode	Press A27	Enter new password (6 digits)	Enter new password once again	
Erase memory	Open BC615	Make link 1 and remove	Enter 112186 on the keypad	Enter 112186 on the keypad once again	

Printouts	Step 1	Step 2	Step 3	Step 4	Step 5
Printout of latest events in memory by date	Enter progr. mode	Press A41	Press B to cancel printout if desired		
Printout of programmed common codes	Enter progr. mode	Press A44	Press B to cancel printout if desired		
Printout of programmed time zones and time schedules	Enter progr. mode	Press A45	Press B to cancel printout if desired		
Printout of reader information	Enter progr. mode	Press A46	Press B to cancel printout if desired		
Printout of logged on cards	Enter progr. mode	Press A47	Press B to cancel printout if desired		
Printout of programmed holidays	Enter progr. mode	Press A48	Press B to cancel printout if desired		

Daily use

Entrance

To open the door the user should do the following:

- Enter a four-digit common code (if *Common code* is the current security level).
- Use a card (if *Card* is the current security level).
- Use a card and enter a personal code belonging to the card (if *Card + PIN* is the current security level). Should the wrong PIN-code be entered 3 times in succession the card is automatically cancelled and must be logged on once again.

The toggle function

If the toggle function is activated, the user can open the door in one of the above-mentioned ways (depending on the current security level). The door remains open until a user (need not be the same one as opened the door) again completes a valid transaction or until another security level starts.

Choose/change PIN code (Calculated PIN not set)

To choose/change your individual PIN (in SiPass Entro installations the PIN code is set from the PC):

1 Press A on the card reader's keypad.

2 Use your card at the card reader.

3 If it is the first you are choosing a PIN code for this card, enter 0000. Otherwise enter the existing code.

4 Enter the new code using four digits.

5 Enter the new code again.

You have now set the PIN for your card.

Duress

This is how to activate the duress alarm output if forced to open the door under threat (this works during the *Card + PIN* security level only):

Swipe or present the card at the card reader and enter the usual PIN code, only add 1 to the last digit in the code.

Example 1: If the PIN code is 1234, press 1235 instead.

Example 2: If the PIN code is 1239, press 1230 instead.

When a duress code is entered, the door is opened at the same time as the alarm output is activated (an alarm is sent to a security guard or similar). The alarm output will be activated until it is reset by entering programming mode.

Troubleshooting

Problem	Possible cause	Action
Red, yellow and green LEDs blink on power up	A button is pressed. Memory error.	Adjust the button. Change card reader.
Cannot enter programming mode. Red LED is lit after two trials.	Wrong password.	Choose a new password.
Green LED is lit on accepted entrance but the door does not open.	Lock error. The jumper between terminal block nos. 1 and 4 in the card reader is missing.	Check cable between card reader and lock. Change locks. Attach jumper.
A card is used at the card reader but nothing happens. No beep is heard.	The reader head is loose. (Magnetic only The reader head is dirty. (Magnetic only) The reader head is damaged.	Tighten the reader head. Clean the reader head using a special cleaning card. Change card reader or reader head.
A card is used at the reader, a beep is heard, but nothing happens.	The card is not logged on. *Card + PIN* is the current security level and the card does not have a PIN code.	Log on the card. Select a PIN code.

Technical information

Power supply:	8 – 24V AC, 12 – 35 V DC.
Max power consumption:	**BC615**: 70 mA. **BC615-Cotag/BC615-EM**: 120mA.
Lock relay:	Max 2A, 30 V DC.
Duress output:	Open collector to 0 volt. Max 500 mA, 30VDC.
Alarm output:	Open collector to 0 volt. Max 500 mA, 30VDC.
Tamper switch:	Max 1A, 30 V DC.
Inputs:	Normally pulled high. Active when pulled low, i.e. 0 V.
Red LED external control:	Galvanic insulation. 12-30 V DC.
Communications port:	RS-232 (printer, PC or system).
Temperature range:	**BC615:** –35° C to +50° C **BC615-Cotag/BC615-EM:** –30° C to +50° C (at 90 % relative air humidity).
Housing protection class:	IP54
Dimensions:	108 x 160 x 45 mm (WxHxD).

Minimum PC system requirements:

- 486 processor (Pentium recommended)
- 16 MB RAM
- At least 20 MB free disk space
- 3,5” floppy disk unit
- VGA screen
- Serial port and Parallel port
- Windows 95 (OSR2)

Charts

Time zones

No (01-15)	Name	1st interval From	To	2nd interval From	To	Day type/s

Example:

No (01-15)	Name	1st interval From	To	2nd interval From	To	Day type/s
01	Working hrs	0830	1159	1300	1759	12345

Time schedules

No (01-15)	Name	Time zones included

Example:

No (01-15)	Name	Time zones included
01	Office staff	01020305

In the above example are time zones nos 1, 2, 3 and 5 included in time schedule no 1.

Security levels

Level	Time schedule
Door unlocked	
Common code	
Card	
Card + PIN	
Toggle	

Special settings

Function	Setting	Default
Password		112233
Common code		None
Release time		7 sec
Door held warning time		10 sec
Buzzer	❒ OFF (0) ❒ ON (1)	ON

Holidays

No	Date (MMDD)	Duration in days	Day type	No	Date (MMDD)	Duration in days	Day type

Example:

No	Date (MMDD)	Duration in days	Day type	No	Date (MMDD)	Duration in days	Day type
01	1224	01	7	02	0701	21	7

Persons

Name	Card number	Time schedule

Example:

Name	Card number	Time schedule
Edwards Anthony	12345678	01

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